

Tranexamic Acid



Introduction.

- Tranexamic acid (TXA) is an anti-fibrinolytic and may have immuno-modulatory effects
- TXA been shown to improve survival rates in traumatic haemorrhage and should be administered as soon as possible. Treatment delay reduces the benefit. Every 15 min of treatment delay appears to decrease the relative survival benefit by 10%, with no benefit after 3h.
- The standard dosing regimen is a 1g IV bolus followed by 1g IV over 8 hours. However, there is no evidence of harm with two single bolus doses, and there are likely to be multiple benefits from a 2x 1g bolus regime as the infusion is often omitted or commenced after 3 hours.
- Administering two boluses ensures that 2g will actually be given, removes the need to run an infusion for 8 hours, and allows cognitive offloading of the need for an infusion.
- Increased fibrinolysis is part of traumatic brain injury (TBI) coagulopathy. Haemorrhage expansion occurs in the first few hours after injury and larger hematomas are associated with increased mortality.
- TXA may limit secondary brain injury via inhibition of fibrinolysis (with reduction in ICH progression) and inhibition of tissue plasminogen activator. TXA has been shown to reduce head injury deaths at 24 hours and reduce new haemorrhage formation in those with mild to moderate head injury.

Rationale

2x 1g IV bolus of TXA in traumatic haemorrhage and mild-moderate brain injury will optimize TXA dosing and patient outcomes with no adverse effects.

Safety and clinical governance

All units are encouraged to audit this new regimen to ensure safety and efficacy.

TRAUMATIC CODE RED

Clinical suspicion of severe haemorrhage

AND/OR

At risk of significant haemorrhage*

**Do not delay TXA administration whilst awaiting CT confirmation of cerebral or other haemorrhage or haemodynamic instability.
If injury mechanism is commensurate with haemorrhage risk: give
1st dose*

TRAUMATIC BRAIN INJURY

Head Injury + GCS < 12

AND/OR

Head Injury + drop in GCS from 15

AND/OR

Intracranial haemorrhage on CT

AND/OR

HEMS intubated head injury

1g bolus IV pre-hospital **AND** 1g bolus IV in-hospital

OR

2x 1g bolus IV in hospital

2g IV TOTAL

Initial dose < 1hr from injury

Both doses < 3hr from injury

GCS 13/14 + head injury - prioritise for CT

Aim < 1hr from injury; must be < 3 hours

Paediatric Dose (Age < 12 OR weight < 50kg)

- 15mg/kg (max 1g) bolus
- 2mg/kg/hr for 8 hours

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